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| APPLICATION NO.                    | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/029,701                         | 12/31/2001  | Byung-Kyu Lee        | 030681-352          | 3883             |
| 21839                              | 7590        | 02/28/2005           | EXAMINER            |                  |
| BURNS DOANE SWECKER & MATHIS L L P |             |                      | RICKMAN, HOLLY C    |                  |
| POST OFFICE BOX 1404               |             |                      | ART UNIT            | PAPER NUMBER     |
| ALEXANDRIA, VA 22313-1404          |             |                      | 1773                |                  |

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|   |                                      |                                       |  |
|---|--------------------------------------|---------------------------------------|--|
| <b>Advisory Action</b><br><b>Before the Filing of an Appeal Brief</b> | <b>Application No.</b><br>10/029,701 | <b>Applicant(s)</b><br>LEE, BYUNG-KYU |  |
|   | <b>Examiner</b><br>Holly Rickman     | <b>Art Unit</b><br>1773               |  |

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 21 January 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: \_\_\_\_\_.
- Claim(s) objected to: \_\_\_\_\_.
- Claim(s) rejected: \_\_\_\_\_.
- Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_
13. ☐ Other: \_\_\_\_\_.

***ADVISORY ACTION (continued)***

11. Applicant's request for reconsideration has been considered but is not persuasive.

Applicant argues that (1) the limitation "perpendicular orientation promoting layer" is a descriptive phrase and not a functional recitation as maintained by the examiner, (2) "a soft magnetic layer is not likely to function to produce a perpendicular orientation", and (3) if the magnetic recording layer is amorphous "as suggested by the Examiner...there would be no layer to fulfill the definition of 'perpendicular magnetic enhancement layer.'"

With respect to the first point, the Examiner has been unable to locate a definition of the phrase "perpendicular orientation promoting layer" in the specification or in the prior art that would indicate that the limitation has a structural or compositional definition that would be understood by one of ordinary skill in the art. As such, the examiner has assigned the limitation its broadest reasonable interpretation based on the plain meaning of each word in the limitation viewed in the greater context of the specification. The specification describes the purpose of this layer as being "to promote the perpendicular magnetic orientation of the PMR" (see p. 2, line 5). Examples of suitable materials are given in the specification but no further clarification is made in the specification regarding the structural qualities of a "perpendicular orientation promoting layer." Thus, the layer appears to be defined by its function. This function requires "promoting" a specific orientation wherein "promoting" has been interpreted by the examiner to mean that this particular layer helps to bring about or facilitates the development of a perpendicular orientation in the magnetic layer.

The examiner maintains that based on the above detailed interpretation of the limitation “perpendicular orientation promoting layer”, the position of record that the soft magnetic layer is capable of functioning as a perpendicular orientation promoting layer is reasonable. Applicant argues that the nucleating layer taught by Tang et al. is “the one intended to influence the crystal orientation of the superlattice 33 and not the soft magnetic layer 31.” However, the fact that the nucleating layer is epitaxially grown on the soft magnetic layer means that its orientation is affected by the soft magnetic layer. Thus, if one assumes that the orientation of the magnetic layer is affected <sup>by</sup> the nucleation layer, one can draw the conclusion that the soft magnetic layer indirectly affects the orientation of the magnetic layer. This indirect relationship between the soft magnetic layer and the magnetic recording layer has been interpreted by the examiner to be a perpendicular orientation promoting effect.

Applicant argues that Tang et al. does not anticipate the claimed structure if “the magnetic recording layer was amorphous as suggested by the Examiner.” It is not entirely clear what Applicant means by this. It appears that Applicant meant to refer to the soft magnetic layer which the examiner previously noted could be amorphous. However, Tang et al. teaches that the soft magnetic layer can be formed of crystalline materials as well so this argument appears to be moot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Holly Rickman", with a stylized flourish at the end.

Holly Rickman  
Primary Examiner  
Art Unit 1773

February 22, 2005